State Of California The Resources Agency of California

Memorandum

Date : November 5, 1999

To: David A. Rohy, Vice Chairman and Presiding Member
Robert A. Laurie, Commissioner

From: California Energy Commission - Eileen Allen
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1516 Ninth Street
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Subject : **OTAY MESA GENERATING PROJECT ISSUE IDENTIFICATION REPORT**

Attached is the staff's Issue Identification Report. This report serves as a preliminary scoping document as it identifies the issues the Energy Commission staff believe will require careful attention and consideration. Energy Commission staff will present the issues report at the Committee's scheduled Informational Hearing on November 15, 1999, at the Chula Vista City Council Chambers, Chula Vista, California.

cc: Otay Mesa Generating Project Proof of Service List
Chris Gallenstein, California ARB
Gabe Ruiz, California ARB
Arthur Carbonell, San Diego Air Pollution Control District
David Wampler, U.S. EPA, Region IX
Gerardo Rios, U.S. EPA, Region IX
Wendy Laird, U.S. EPA, Region IX
Stella Caldwell, San Diego County Department of Planning and Land Use
Ricardo Martinez, State Water Resources Control Board.
Kristen Alliotti, California Department of Trade & Commerce
David Lawhead, California Department of Fish and Game
John Hazard, U.S. Fish and Wildlife Service
Larry Tobias, Cal-ISO

OTAY MESA GENERATING PROJECT

(99-AFC-5)

ISSUE IDENTIFICATION REPORT

CALIFORNIA ENERGY COMMISSION

Energy Facilities Siting and Environmental Protection Division

November 5, 1999

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PURPOSE

This report has been prepared by the California Energy Commission staff to inform the Committee and all interested parties of the potential issues that have been identified. These issues have been identified as a result of our site visits, discussions with other agencies and interested participants during prefiling and the data adequacy phase, and our review of the Otay Mesa Generating Project (OMGP) Application for Certification (AFC), Docket Number 99-AFC-5. This report contains a project description, a summary of potential issues and a discussion of the staff's proposed project schedule.

PROJECT DESCRIPTION

The OMGP will be a 510 megawatt (MW), natural gas-fired combined cycle power plant located in the Otay Mesa area in western San Diego County. The project is proposed by the Otay Mesa Generating Company, Limited Liability Corporation (LLC). The 15-acre site is about 15 miles southeast of San Diego, California, and about 1.5 miles north of the United States/Mexico border. A new 230 kilovolt (kV) switchyard at the site is proposed. The project applicant plans to build a 0.1-mile connection to San Diego Gas & Electric's (SDG&E) existing 230 kV Miguel -Tijuana transmission line that passes near the eastern boundary of the site. A 9-mile section of this existing line may need to be modified to accommodate the addition of new conductors (i.e., wires carrying electricity) on existing towers, between an interconnection point east of the plant site and SDG&E's Miguel substation. A new two-mile natural gas pipeline will be built by SDG&E to provide fuel for the project. The gas pipeline will connect to SDG&E's Pipeline 2000 which is currently under construction.

The project will use dry cooling technology, while process water for steam generation and potable water for domestic needs will be supplied by the Otay Water District via a 0.2 –mile pipeline connection. Wastewater from the plant will be transported to San Diego County's sewer system from the plant, via a new 2-mile pipeline that will connect to an existing line in Johnson Canyon. The proposed route for access to the Otay Mesa site will be from Otay Mesa Road, turning north on Alta Road. The proposed site is approximately 700 feet east of Alta Road. The applicant will be building a short access road from Alta Road to the site.

Otay Mesa, LLC, plans to complete construction and start operation of the OMGP by the summer of 2002. During construction, an average of approximately 400 workers will be employed. During operation, the OMGP will employ approximately 20 full-time staff.

POTENTIAL ISSUES

This portion of the report contains a discussion of the potential issues Energy Commission staff has identified to date. The Committee should be aware that the list may not include all the significant issues that could arise during the case, as discovery is not yet complete and other parties have not yet had an opportunity to identify their concerns. The identification of potential issues was based on our judgement of whether any of the following circumstances will occur:

- significant impacts may result from the project which may be difficult to mitigate;

- the project as proposed may not comply with applicable laws, ordinances regulations or standards (LORS);

- conflicts may arise between the parties about the appropriate findings or conditions of certification for the Energy Commission decision.

The following table identifies the subject areas evaluated and issue status at this time. Even though an area is identified as having no issue or issues, it does not mean that no issue will arise related to the subject area. For example, disagreements regarding the appropriate conditions of certification may arise between staff and applicant which will require discussion at workshops or even subsequent hearings. However, staff does not believe such an issue will have an impact on the case schedule or that resolution will be difficult.

Major Issue	Subject Area	Major Issue	Subject Area
Yes	Air Quality	No	Noise
No	Alternatives	No	Paleontological Resources
Yes	Biological Resources	No	Public Health
No	Cultural Resources	No	Socioeconomics
No	Efficiency and Reliability	No	Soils
No	Electromagnetic Fields & Health Effects	No	Traffic and Transportation
No	Facility Design	No	Transmission Line Safety
No	Geology	**Yes**	Transmission System Engineering
No	Hazardous Materials	No	Visual Resources
No	Industrial Safety and Fire Protection	No	Waste
Yes	Land Use	No	Water Resources
No	Need Conformance		

The following discussion summarizes each potential issue, identifies the parties needed to resolve the issue, and recommends a process for achieving resolution. Staff plans to use this issue identification report to focus its analysis that will be included in the Preliminary Staff Assessment (PSA) and Final Staff Assessment (FSA).

AIR QUALITY

Issues identified to date that may affect the timing and possible outcome of the Otay Mesa Generating Project licensing process include: 1) the provision of offsets consistent with the air regulatory agencies' and the Energy Commission's licensing requirements; 2) a clear description of the Best Available Control Technologies (BACT) proposed for the project; 3) confidentiality of offset and emission control technology information; 4) emission levels during all operating modes; and 5) PM10 impacts and mitigation.

OFFSETS

The availability of offsets and the process by which an applicant secures the offsets for their project can be uncertain during siting cases. The proposed Otay Mesa offset package needs to be analyzed and agreed to by the oversight agencies (San Diego County Air Pollution Control District, California Air Resources Board (CARB), and the U. S. Environmental Protection Agency (EPA)) prior to the issuance of the District's Preliminary Determination of Compliance (PDOC) by day 120. Commission staff will also need to review the offset package as part of its analysis prior to the issuance of the PDOC and PSA.

In this case, the applicant is pursuing a range of approaches to provide the offsets needed for its project. First, they are using a scale-up of a relatively new nitrogen oxides (NOx) control technology, "SCONOx", to minimize the project's emissions that will need to be offset (see discussion on BACT below). Second, they are pursuing stationary source NOx emission reduction credits (ERCs), stationary source volatile organic compound (VOC) ERCs to interpollutant trade for NOx, and mobile sector NOx ERCs (MERCs), for which significant regulatory issues will need to be resolved. The confidential filings by the applicant have provided some details of the offset package, and in particular, of the MERCs. We expect more details to be provided during the discovery and analysis phases of the licensing process.

STATIONARY SOURCE ERCS

Each ERC needs to be reviewed to determine whether the reductions are surplus (Reasonably Available Control Technology (RACT) adjusted), or whether the EPA will have concerns regarding the validity of those ERCs. We believe that the applicant has been rigorous in their approach in this area. They are securing stationary source ERCs and are having them reviewed by the EPA now, rather than when the ERCs are presented in the PDOC.

The San Diego area has a limited industrial base. Therefore, the area has a limited number of NOx ERCs that are already approved and in the District's ERC bank, and limited additional emission reduction opportunities. The applicant believes that they will only be able to provide stationary source NOx ERCs for a small portion of the project's NOx emission offset liability.

INTERPOLLUTANT TRADING

In order to use stationary source VOC ERCs to offset NOx emissions, the applicant is proposing to use an interpollutant trading ratio of 2 VOC for 1 NOx, as specified in the district's new source review (NSR) rule. However, the EPA identified the VOC to NOx interpollutant trading ratio as a deficiency in the district NSR rule, stating that there is not adequate documentation to support the 2:1 ratio. The district responded to the EPA on this and other identified NSR rule review deficiencies. It is unknown whether the district's response is adequate to resolve this issue, what the time frame is for final resolution, or what final VOC for NOx interpollutant trading ratio will be acceptable to the district and the EPA.

As with NOx, San Diego has a limited number of banked VOC ERCs and emission reduction opportunities. The applicant believes that they will only be able to provide stationary source VOC ERCs for a small portion of the project's NOx emission offset liability. Again, the applicant is securing stationary source VOC ERCs and is having them reviewed by the EPA now to resolve any "surplus" issues. At this time, the interpollutant trading ratio necessary for VOC ERCs to be applied to the project NOx offset liability has not been agreed to by all parties.

MOBILE ERCS

The applicant has proposed that the majority of offsets come from the mobile sector, in the form of Mobile Emission Reduction Credits (MERCs). While the District has a MERC banking rule in place (Rule 27),[1] the rule has not previously been successfully used to generate MERCs or offsets for use by a stationary source. The District and the applicant have, for a number of months, been talking with and seeking guidance from the CARB and the EPA to assist them in preparing and processing the MERC applications in a timely and consistent manner. In this case, the applicant is proposing to convert portions of heavy and light duty truck fleets from diesel to compressed or liquefied natural gas. Natural gas engines emit less NOx than the current truck engine standards require. The applicant is proposing to bank the difference between today's diesel engine NOx standard and the certified performance levels of the natural gas engines.

Per an October 12, 1999 letter from Sharon Segner, PG&E Generating, to Michael Kenny, CARB, the applicant and the CARB have reached an impasse regarding the permanence of the MERCs. In the letter, Ms. Segner requested a meeting with Mr. Kenny to discuss this and other issues associated with MERCs. We are unable to describe the technical and policy differences that led to the impasse referred to by Ms. Segner, and do not know how or if the differences will be resolved to allow the MERC application process to proceed. According to the applicant, given the limited supply of stationary source ERCs in San Diego, the

1 SDCAPCD Rule 27(e) USES OF MERC "The MERC's calculated and issued pursuant to Rule 27 may be used for the same purposes, throughout their applicable credit life, as stationary source emission reduction credits calculated and issued pursuant to Rules 26.0 through 26.10. Except as provided for in Subsection (c)(1)(i)(H) of this rule, an annual amount of MERC generated cannot be saved for use in a subsequent year, nor can a sum of MERC's generated for more than one-year of the credit life be used in a single year."

proposed project may not be able to move forward through the licensing process without the MERCs.

Staff believes, based on conversations with CARB staff, that one issue, or assumption, being discussed by the applicant and CARB is the “life” of the ERCs. The applicant is anticipating that each engine will generate MERCs that are good for 30 years, while CARB is considering a 10-year life. Using a “10-year life” assumption would require three engine “purchases” to fully offset the thirty-year life of the project. Additionally, we believe that CARB wants the MERCs front-end loaded – requiring the applicant to purchase all the MERCs up-front, thirty years worth on an equivalent ton-year basis, rather than every 10 years. However, the District MERC Rule 27 would have to be revised to delete language that currently prohibits front-loading.[1] Staff will continue to coordinate with the air regulatory agencies regarding the resolution of these issues. An impact on the schedule could occur because the District can take up to 180 days to process a MERC application or a rule change. Neither action has been initiated by the District.

Staff will be evaluating the MERCs as the primary source of mitigation (i.e., the majority of the offset package) for any identified air quality impacts. Some of the concerns staff may have regarding the MERCs include, but are not limited to:

- Preparation of a monitoring program that includes testing protocols (e.g., sampling size, test intervals, etc.), acceptable test methods, and contingency plans if engines or fleets fail to achieve the certified emission levels.

- Industry concerns with the seemingly premature NOx emissions performance degradation of natural gas engines.

- Enforcement mechanisms to ensure the operation of the new engines similar to diesel engines they replace (e.g., similar duty cycle and mileage).

However, we have not yet been asked by the applicant to participate in the on-going discussions between the applicant and the District, CARB, and EPA regarding the MERCs. Therefore we are unaware of whether our concerns are being raised or addressed. Absent participation in the on-going discussions, staff will need to address its concerns as part of discovery and the analysis of impacts and mitigation. This approach will very likely slow the process as we may be going over issues that were already discussed and raising new issues late in the MERC banking licensing process.

We will be discussing with the applicant when and how we can participate in the MERC discussions, given some uncertainties regarding confidential features of the MERC data.

BEST AVAILABLE CONTROL TECHNOLOGIES

SCONOX

The applicant has proposed SCONOx as the emission control technology on both combustion turbine trains. SCONOx reduces NOx, VOC, and SO2 emissions through an oxidation/absorption process. The technology has been proven on smaller turbines (LM2500), but, to date, has not been deployed on larger "F" class combustion turbines. The final stack chemistry should be very similar to other combustion turbine combined cycle projects regardless of size, but the 6-fold scale-up could present some engineering challenges.

There are numerous uncertainties associated with the SCONOx technology for this application, including, but not limited to: scale-up, performance, reliability, and whether emissions can be measured accurately and reliably at the low emission levels proposed. The applicant may be submitting draft permit conditions to the District, CARB, and EPA to initiate discussions in these areas of uncertainty. Staff does not believe that it will receive copies of these draft permit conditions due to the applicant's confidentiality concerns. Staff will, therefore, need to rely on the discovery and analysis process to provide the information necessary to generate a description of the technology. Staff hopes to provide the decision makers with a clear understanding of the SCONOx system, its expected performance, and any contingency plans in those areas in which it believes the SCONOx system may not be able to achieve the required performance.

As a contingency, the applicant is proposing the use of selective catalytic reduction (SCR) to achieve the same NOx emission level (2 ppm NOx on a three-hour rolling average). Air emission impacts should be very similar at 2 ppm NOx with either SCONOx or SCR control configurations. We do not anticipate that the air impacts analysis will have to be redone if the project switches to SCR.

However, the ammonia emissions associated with SCR will have to be analyzed for potential impacts and mitigation. The applicant is pursuing offsets for the project at the 2 ppm NOx level on a three-hour rolling average, regardless of control technology.

The applicant is also proposing to demonstrate the ability of the SCONOx system to control NOx to levels as low as 1 ppm. These tests would occur after a three-year period of "initial optimization." The applicant will need to describe how the testing or demonstration phase would be conducted, what effect it might have on the availability and reliability of the project, or how the project design and construction would be shaped by the future tests of the SCONOx system.

CONFIDENTIALITY

The applicant has filed some of the details of the offset and SCONOx packages under the cover of confidentiality. Staff and the applicant are discussing the confidentiality application, and, in particular, the applicant's desire that the material be kept confidential up to the time the Final Determination of Compliance is filed. The Air District's PDOC and staff's PSA will include details of the offset package and the SCONOx system. We believe that the length of time proposed by the applicant will interfere with the preparation of the PDOC and PSA, and with the release of these documents for public comment. We have requested further discussions with the applicant to clarify what material will be held confidential and for what length of time.

EMISSION LEVELS DURING ALL OPERATING MODES

With the introduction of large utility-scale combustion turbines to the resource mix, staff is concerned about the control of air pollutant emissions during low-load operation, load transitions, start-ups and shutdowns, and commissioning periods. While the Otay Mesa Generating project appears to be designed for base-load operation, with a minimum number of start-ups and shutdowns, the exact operation of the project in a competitive market is uncertain. Staff, the District, and the applicant will be working to clearly define the expected performance of the emission control systems during all necessary operating conditions, including commissioning. Any necessary permit conditions to limit emissions and related impacts will be prepared.

The project will use steam injection for power augmentation during certain times of the year. Steam (or water) injection for power augmentation can affect combustion turbine air pollutant emission rates, generally providing some NOx reductions but significant CO emission increases. Staff will work with the applicant and the District to analyze the CO emissions during all modes of project operation to determine if the emission rates satisfy the CO BACT recommendations in the CARB Power Plant Guidance Document. Staff will also need to investigate the effects of fuel gas preheating being proposed by the applicant on air pollutant emissions.

PM10 IMPACTS

The San Diego region is non-attainment for the state 24-hour PM10 ambient air quality standard. The District NSR rule has a significance criterion for PM10 impacts. Initial air quality modeling indicated that PM10 impacts from the project would exceed the significance level. Subsequent modeling efforts by the applicant with an alternative approved air quality model calculated PM10 impacts at or below the significance level. However, the modeling efforts do not address the potential issue of PM10 emissions from the project that contribute to existing violations of the state 24-hour PM10 standard. The applicant has not proposed PM10 offsets, nor does the District require PM10 offsets if the significance level is not exceeded. Staff will need to analyze the PM10 emissions, modeled air quality impacts, and the District's PM10 attainment status and Maintenance Plan to determine the need for mitigation.

Staff proposes to work with the applicant and the air regulatory agencies through the discovery and analysis phases of the process to resolve these issues. Early and continuing participation by staff in the ongoing dialogue regarding MERCs and SCONOx is critical to the timely processing of the application. We recommend that staff, under our confidentiality guidelines, start participating now in that dialogue. We believe that this may require communication with the applicant by Division management and possibly the Committee.

BIOLOGICAL RESOURCES

PROJECT PERMITTING

The proposed power plant and its associated linear facilities would be located in an area containing several protected species and their habitats which are covered by the San Diego County Multiple Species Conservation Program (MSCP). The MSCP is designed to preserve sensitive species and related habitats and to streamline and coordinate procedures for project review and permitting.

Project facilities would be located within various MSCP subareas where the permit and mitigation requirements are not clearly defined at this time. Therefore, the project's regulatory review and approval with respect to biological resources may be quite complicated and time consuming. For this reason, all parties need to immediately begin to concisely identify the permit approval process and required mitigation for the portions of the project located in the various MSCP subareas.

LAND USE

The Otay Mesa project will not comply with San Diego County's allowable height limit as specified in the East Otay Mesa Specific Plan. The Specific Plan allows a maximum height of 60 feet. Project features that exceed this limit include the heat recovery steam generator stack and air cooled condenser at 100 and 110 feet, respectively. To resolve this nonconformity, the applicant has stated its intention to obtain a variance from San Diego County. Staff will work with the applicant and San Diego County to reach a decision on this matter prior to the evidentiary hearing on the land use topic (if not sooner in the schedule for this case).

TRANSMISSION SYSTEM ENGINEERING

RECONDUCTORING

The applicant has proposed a 0.1- mile transmission connection to San Diego Gas & Electric's (SDG&E) existing Miguel-Tijuana 230 kV line. However, SDG&E has told the applicant that an approximately 9-mile long section of the Miguel-Tijuana line may need to have new conductors (ie, wires carrying electricity) added, in order to accommodate the new capacity provided by the Otay Mesa project. The need for the 9-mile reconductoring of the existing line is the subject of a continuing discussion between the applicant, SDG&E, and the California Independent System Operator (Cal-ISO). In addition, the cost of reconductoring for a system-wide benefit, including mitigation expenses related to the existing line, will continue to be discussed between the parties. The Commission staff will monitor the progress of these discussions and file data requests directed towards being able to substantiate the applicant's and SDG&E's conclusions.

COMISION FEDERAL DE ELECTRICIDAD (CFE) SYSTEM IMPACTS

The impacts of the Otay Mesa project on the transmission system for Mexico's electric utility, CFE, are not presented in the AFC. Since the impacts are currently unknown at this time, the implications, if any, for the proposed transmission interconnection configuration are also unknown. Therefore the Commission's transmission system engineering staff is not able to determine how this issue will affect the licensing process and schedule. Staff will request information from the applicant, secure information from other sources and discuss this topic in workshops.

IMPORT CAPABILITY AND REACTIVE SUPPORT

The affects of the Otay project on power imports into California and reactive voltage support[2] for the SDG&E area are unknown at this time. Staff's initial

[2] Voltage support is provided by available reactive power. Such reactive power may be provided by static devices (capacitors) or dynamic means (generators).

conclusion is that these topics may not be appropriate issues for this proceeding. If, however, these become an issue, they could result in significant resource expenditures and schedule impacts for the transmission system engineering analysis. How such additional analysis requirements would affect the overall schedule for the licensing process is not known at this time. Staff is evaluating the significance and relevance of these two topics. It will coordinate with the Cal-ISO and advise the Committee in the first status report regarding our recommendations.

SUMMARY OF SCHEDULING ISSUES

Staff has begun its analyses of the major issues identified above, as well as its assessment of other environmental and engineering aspects of the applicant's proposal. The first step in that assessment will be the issuing of data requests to the applicant on or before November 9, 1999. Staff will be discussing those data requests at a publicly noticed workshop in San Diego scheduled for November 16, 1999. Over the next few months, staff may issue additional data requests and conduct public data request, data response, and issue resolution workshops to address concerns regarding the applicant's proposal.

Staff's initial findings regarding the major issues discussed above, as well as other environmental and engineering findings regarding the project, will be presented in the Preliminary Staff Assessment (PSA) which is expected to filed on March 21, 1999. After filing the PSA, staff will conduct public workshops to discuss its findings, recommendations and proposed conditions of certification. Based on these workshop discussions and other information that may be provided to staff, staff will present its conclusions and recommendations in the Final Staff Assessment (FSA) which is expected to be filed by May 4, 2000.

Following is staff's proposed schedule for key events for the project. Key events which will dictate whether staff will be able to meet these dates are the applicant's timely response to staff's data requests; the applicant's submittal of information required by the San Diego Air Pollution Control District, the California Air Resources Board, and the U.S. Environmental Protection Agency; the Air District's filing of its preliminary and final Determination of Compliance; and the timely review and biological consultations by the California Department of Fish and Game and the U.S. Fish and Wildlife Service.

Staff proposes to provide the Committee with monthly status reports on the status of the issues identified in the report and any new issues that may arise.

DATE	EVENT
August 2, 1999	Otay Mesa Generating Project AFC filed
October 6, 1999	Energy Commission Deems AFC Complete
November 15, 1999	**Information Hearing, Issue Identification & Site Visit**
November 16, 1999	**Data Request Workshop**
December 16, 1999	Data Request Responses Due From Applicant
February 7, 2000	San Diego APCD files Preliminary Determination of Compliance (PDOC)
March 21, 2000	Staff files Preliminary Staff Assessment (PSA)
April 4, 2000	APCD files Final Determination of Compliance (FDOC)
April 13, 2000	**Prehearing Conference**
May 4, 2000	Staff files Final Staff Assessment (FSA)
May 18, – June 1, 2000	**Hearings**
Oct 5, 2000	**Adopt Decision**